

### REMARKS

In response to the office action dated October 29, 2009, Applicants have amended claims 1, 14, 27, and 31. Support for the amendments to claims 1, 27, and 31 can be found, e.g., in FIGs. 1-5 of the present application. No new matter has been introduced by the above amendments. Claims 1-4, 6, 14-21, 24-27, and 31 are presented for examination.

Claims 27 and 31 are rejected under 35 U.S.C. § 102(b) as anticipated by Van't Hoff, U.S. Patent No. 6,616,017 ("Van't Hoff").<sup>1</sup>

Amended independent claims 27 and 31 recite systems containing, among others, (1) a product chamber containing or configured to hold a fluid; (2) a working propellant chamber having a movable wall in communication with the fluid and containing or configured to hold a propellant at a working pressure, (3) a reservoir propellant chamber containing or configured to hold the propellant at a pressure higher than the working pressure, and (4) a pressure controller in a fluid connection between the working propellant chamber and the reservoir propellant chamber. The pressure controller is disposed within the reservoir propellant chamber. The movable wall is movable relative to the pressure controller. At least a portion of a first side of the movable wall bounding at least a portion of the working propellant chamber, and at least a portion of a second side of the movable wall, facing away from the working propellant chamber, bounding at least a portion of the product chamber such that the fluid is separated from the propellant.

Van't Hoff describes a pressure control device 1 for maintaining a constant predetermined pressure in a container. *See, e.g.*, the abstract, column 6, line 66, and FIG. 7. The pressure control device 1 includes a first chamber 4, a second chamber 6, and a closing member 8 movable relative to the second chamber for releasing and closing a fluid connection between the first chamber 4 and the container. *See, e.g.*, the abstract, column 7, lines 2-20, and FIG. 7. However, Van't Hoff does not disclose the systems recited in amended claims 27 and 31.

First, the Examiner asserts that "[t]he embodiment of figure 7 of Hoff discloses an article

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<sup>1</sup> Van't Hoff was published on September 9, 2003, later than the earliest priority date of the present application, i.e., January 21, 2003. Thus, Van't Hoff is not a 102(b) reference as asserted by the Examiner. For the sake of discussion, Applicants treat Van't Hoff as a prior art reference in this reply.

for pressurizing a fluid including a product chamber 55, a working propellant chamber 56, a movable wall 1 ...” See the office action, page 2, 3<sup>rd</sup> paragraph. It appears that the Examiner equates reference sign 1 in Fig. 7 in Van’t Hoff to a movable wall recited in amended claims 25 and 29. The Examiner clearly errs. Van’t Hoff explicitly discloses that reference sign 1 in Fig. 7 refers to a pressure control device. See column 6, line 66. It would have been apparent to one skilled in the art that pressure control device 1 shown in Fig. in Van’t Hoff is not a wall of chamber 56 (which is considered by the Examiner as a working propellant chamber). Further, Van’t Hoff discloses that “the entire device 1 will move upwards” when the fluid in chamber 55 is being drawn from the container. See column 7, lines 21-27. As shown in Fig. 7 of Van’t Hoff, “the entire device 1” includes cylinder 10, which is considered by the Examiner as a pressure controller. Thus, even if pressure control device 1 somehow could be construed as a wall of chamber 56, one skilled in the art would readily understand that device 1 is not a wall movable relative to cylinder 10, as required by amended claims 25 and 29. In addition, Van’t Hoff does not disclose pressure control device 1 having at least a portion of a first side of the movable wall bounding at least a portion of the working propellant chamber, and at least a portion of a second side of the movable wall, facing away from the working propellant chamber, bounding at least a portion of the product chamber such that the fluid is separated from the propellant, as required by amended claims 27 and 31.

Second, the Examiner asserts that “[t]he embodiment of figure 7 of Hoff discloses an article for pressurizing a fluid including ... a reservoir propellant chamber 4, a pressure controller 10, and a reference pressure chamber 6.” See the office action, page 2, 3<sup>rd</sup> paragraph. It appears that the Examiner equates reference signs 4 and 10 in Fig. 7 of Van’t Hoff to a reservoir propellant chamber and a pressure controller recited in amended claims 27 and 31, respectively. Even if the Examiner’s characterization is accurate (which Applicants do not concede), pressure controller 10 shown in Fig. 7 of Van’t Hoff is disposed outside reservoir propellant chamber 4, not within reservoir propellant chamber 4 as required by amended claims 27 and 31.

For at least the reasons set forth above, amended claims 27 and 31 are not anticipated by Van’t Hoff. Accordingly, Applicants request reconsideration and withdrawal of this rejection.

Claims 1-4, 6, 14-21, 24, and 26 are rejected under 35 U.S.C. § 103(a) as unpatentable over Van't Hoff in view of Richter, et al., DE 42 41 074 ("Richter"). Claim 25 is rejected under 35 U.S.C. § 103(a) as unpatentable over Van't Hoff in view of Richter and Lippman et al., U.S. Patent No. 5,423,454 ("Lippman").

Independent claim 1 is discussed first. Amended claim 1 recites a system containing, among others, (1) a product chamber for holding a fluid; (2) a working pressure chamber for holding a propellant at a substantially constant working pressure, (3) a high pressure chamber configured to hold the propellant at a pressure higher than the working pressure, (4) a pressure controller in a fluid connection between the working pressure chamber and the high pressure chamber, and (5) a wall movable relative to the pressure controller. The pressure controller is disposed within the high pressure chamber and contains a reference pressure chamber confining a gas at a reference pressure, which determines the supply of the propellant to the working pressure chamber. At least a portion of a first side of the movable wall bounding at least a portion of the working pressure chamber, and at least a portion of a second side of the movable wall, facing away from the working pressure chamber, bounding at least a portion of the product chamber.

As correctly pointed out by the Examiner, Van't Hoff does not disclose a system containing a wall movable relative to a pressure controller, as required by amended claim 1. *See* the office action, page 2, 4<sup>th</sup> paragraph. In addition, as discussed above, Van't Hoff does not disclose a system in which at least a portion of a first side of the movable wall bounding at least a portion of the working pressure chamber, and at least a portion of a second side of the movable wall, facing away from the working pressure chamber, bounding at least a portion of the product chamber, as required by amended claim 1. As also discussed above, Van't Hoff does not disclose a system in which the pressure controller is disposed within the higher pressure chamber, as required by amended claim 1. Nor does Van't Hoff render such a system obvious.

Richter does not cure the deficiencies in Van't Hoff. The Examiner asserts that "it would have been obvious to one of ordinary skilled in the art at the time of invention was made to provide the system of Hoff with a movable wall as, for example, taught by [Richter] in order to maintain the propellant separate from the product and preventing mixing of the product and

propellant.” See the office action, the paragraph bridging pages 2 and 3. However, it would not have been obvious to combine Richter with Van’t Hoff in the manner suggested by the Examiner. Richter discloses a lubricant dispenser including a mechanism for dosed lubricant release.<sup>2</sup> See, e.g., page 1, lines 14-15. A dosing piston 3 is loaded by the pressure of a pressure gas, which gradually decreases as the lubricant is released from the dispenser such that the lubricant is released from the dispenser at a *precise* rate. See, e.g., page 1, lines 16-23; page 3, lines 9-12, 23-30, 38-41; page 4, lines 1-8. Further, Richter discloses a space located between a wall attached to pressure gas inlet 7 and dosing piston 3 (see page 4, lines 28-31), which is considered by the Examiner as a “working propellant chamber.” However, Richter does not disclose keeping the pressure of this space substantially constant. Rather, because this space is in a fluid connection with pressure gas cartridge 4, the pressure in this space will ultimately decrease along with the pressure in pressure gas cartridge 4 as lubricant is released from the dispenser. See Richter, page 3, lines 38-41. Indeed, as discussed in Applicants’ response filed on September 15, 2009, Richter does not disclose a pressure controller including a reference pressure chamber that determines the supply of a propellant to the working pressure chamber to maintain a constant working pressure. See the September 15, 2009 response, page 9, 2<sup>nd</sup> paragraph. By contrast, Van’t Hoff discloses a pressure control device in which the pressure in chamber 56, which is considered by the examiner as a “working propellant chamber,” is maintained at a constant pressure. Thus, because the lubricant dispenser described in Richter functions in a way substantially different from the pressure control device described in Van’t Hoff, even if one skilled in the art would have wanted to modify Van’t Hoff, that person would not have looked to Richter for guidance, let alone incorporating a movable wall described in Richter into the device described in Van’t Hoff as asserted by the Examiner.

Further, as discussed above, Van’t Hoff discloses that “the entire device 1 will move upwards” when the fluid in chamber 55 (which is considered by the Examiner as a product chamber) is being drawn from the container. Thus, it would have been apparent to one skilled in the art that chambers 55 and 56 described in Van’t Hoff are somehow already separated so that

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<sup>2</sup> Citations to Richter are to the certified translation of DE 42 41 074 A1 submitted to the Office in the information disclosure statement dated June 9, 2006.

device 1 moves up due to a pressure difference between these two chambers. In other words, it would have been apparent to one skilled in the art that there is no need for the container described in Van't Hoff to include a wall that is movable relative to cylinder 10 (which is considered as the pressure controller) to separate the fluid in chamber 55 from the gas in chamber 56, as asserted by the Examiner.

It appears that the Examiner has simply picked two devices independently known in the art (i.e., a lubricant dispenser described in Richter and a pressure control device described in Van't Hoff) to render claim 1 obvious. Applicants would like to reiterate that, according to the Supreme Court, a patent claim "composed of several elements is **not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.**" See KSR Intern. Co. v. Teleflex Inc., 127 S.Ct. 1727, 1742 (2007); emphasis added. Instead, "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *Id.* Here, the Examiner did not provide any plausible explanation or reasoning as to why one skilled in the art would have included a movable wall in a lubricant dispenser described in Richter into a pressure control device described in Van't Hoff. In other words, it appears that the Examiner has improperly based his conclusion of obviousness on the mere assertion that the elements required by claim 1 are separately described in two independent references (i.e., Richter and Van't Hoff). Accordingly, Applicants submit that the Examiner has not met his burden under the law set forth by the Supreme Court.

In addition, Richter teaches using dosing piston 3 movable relative to lubricant reservoir 7 (which is considered by the Examiner as a movable wall) to expel lubricant from lubricant reservoir 7. See page 4, lines 22-37. It appears that incorporating the dosing piston described in Richter into the container described in Van't Hoff to form a movable wall relative to the pressure controller recited in claim 1 would require pressure control device 1 in Van't Hoff to be fixed relative to the container in order for the dosing piston to function properly. However, this would have completely changed the principle of how pressure control device 1 is operated. According

to MPEP 2143.01VI, "The proposed modification cannot change the principle of operation of a reference. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious" (emphasis added). Here, because including a dosing piston described in Richter in a container described in Van't Hoff would have completely changed the principle of operation of the Van't Hoff device, one skilled in the art would not have combined Richter with Van't Hoff in the manner suggested by the Examiner to provide the system recited in amended claim 1.

Finally, even if Van't Hoff and Richter somehow were combined, the result would still not have been the system recited in amended claim 1. For example, neither Van't Hoff nor Richter discloses or renders obvious a system in which a pressure controller is disposed within the high pressure chamber, as required by amended claim 1. Indeed, cylinder 10 described in Van't Hoff (which is considered by the Examiner as a pressure controller) is disposed outside of first chamber 4 (which is considered by the Examiner as a high pressure chamber). As discussed in Applicants September 15, 2009 response, Richter does not disclose a pressure controller. For the sake of discussion, Applicants treat elements 5-7 described in Richter as a pressure controller. However, similar to Van't Hoff, the pressure controller made of elements 5-7 described in Richter is disposed outside of pressure gas cartridge 4 (which is considered by the Examiner as a high pressure chamber).

In addition, Lippman also does not cure the deficiencies in Van't Hoff. It would not have been obvious to combine Lippman with Van't Hoff. Even these two references were somehow combined, the result would still not have been the system of amended claim 1. For example, similar to Van't Hoff, Lippman does not disclose or render obvious a system in which a pressure controller is disposed within the high pressure chamber, as required by amended claim 1.

Thus, claim 1 is not obvious over Van't Hoff in view of Richter or further in view of Lippman. Nor are claims 2-4, 6, 14-21, and 24-26, all of which depend from claim 1.

Accordingly, Applicants request reconsideration and withdrawal of this rejection.

Claims 1-4, 6, 14-21, 24, 26, 27, and 31 are rejected under 35 U.S.C. § 103(a) as unpatentable over Richter in view of Couffer, U.S. Patent No. 3,228,559 ("Couffer"). Claim 25

is rejected under 35 U.S.C. § 103(a) as unpatentable over Richter in view of Couffer and Lippman.

Independent claim 1 is discussed first. Amended claim 1 recites a system containing, among others, (1) a product chamber for holding a fluid; (2) a working pressure chamber for holding a propellant at a substantially constant working pressure, (3) a high pressure chamber configured to hold the propellant at a pressure higher than the working pressure, (4) a pressure controller in a fluid connection between the working pressure chamber and the high pressure chamber, and (5) a wall movable relative to the pressure controller. The pressure controller is disposed within the high pressure chamber and includes a reference pressure chamber confining a gas at a reference pressure, which determines the supply of the propellant to the working pressure chamber. At least a portion of a first side of the movable wall bounding at least a portion of the working pressure chamber, and at least a portion of a second side of the movable wall, facing away from the working pressure chamber, bounding at least a portion of the product chamber.

As discussed in Applicants' September 15, 2009 response, Richter does not disclose a system containing a pressure controller, let alone a pressure controller including a reference pressure chamber confining a gas at a reference pressure, which determines the supply of the propellant to a working pressure chamber, as required by amended claim 1. As also discussed in Applicants' September 15, 2009 response, Richter does not disclose a system containing a working pressure chamber for holding a propellant at a substantially constant working pressure, as required by amended claim 1. Finally, as discussed above, Richter does not disclose a system in which a pressure controller is disposed within the high pressure chamber, as required by amended claim 1. Nor does Richter render such a system obvious.

Couffer does not cure the deficiencies in Richter. The Examiner asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of [Richter] with a reference chamber, as for example, taught by Couffer in order to attain a substantially constant and adjustable working pressure in the working pressure chamber." See the office action, page 4, 1<sup>st</sup> paragraph. However, it would not have been obvious to combine Couffer with Richter in the manner suggested by the Examiner. Couffer

describes a pressurized beverage dispenser for maintaining the beverage at a relative constant pressure when the beverage is withdrawn from the container. *See, e.g.*, column 1, lines 11-15. By contrast, as discussed above, Richter describes a lubricant dispenser in which the lubricant is released from the dispenser at a *precise* rate. The lubricant dispenser described in Richter does not require the lubricant to be maintained at a relative constant pressure. Indeed, the pressure of the lubricant in the dispenser described in Richter would gradually decrease as the lubricant is drawn from the dispenser. Thus, because the pressurized beverage dispenser described in Couffer functions substantially different from the lubricant dispenser described in Richter, even if one skilled in the art would have wanted to modify Richter, that person would not have looked to Couffer for guidance, let alone incorporating the bellows described in Couffer (which is considered by the Examiner as a reference chamber) into the lubricant dispenser described in Richter to maintain a working pressure chamber at a relative constant pressure, as asserted by the Examiner.

It appears that the Examiner has simply picked two devices independently known in the art (i.e., a lubricant dispenser described in Richter and a pressurized beverage dispenser described in Couffer) to render claim 1 obvious without providing any plausible explanation or reasoning why one skilled in the art would have made that combination. Indeed, as discussed above, the lubricant dispenser described in Richter does not maintain a constant pressure in its working pressure chamber (i.e., a space located between a wall attached to pressure gas inlet 7 and dosing piston 3). Thus, one skilled in the art would not have wanted to incorporate the bellows described in Couffer into the lubricant dispenser described in Richter to maintain a constant pressure in its working pressure chamber, as asserted by the Examiner. Accordingly, Applicants submit that the Examiner has not met his burden under the law set forth by the Supreme Court in KSR described above.

In addition, as discussed above, Richter does not disclose a pressure controller. For the sake of discussion, even assuming that elements 5-7 described in Richter constitute a pressure controller, it would not have been clear how one would incorporate the bellows described in Couffer into the pressure controller in Richter. Indeed, Richter teaches that "[t]he invention is based on the insight that a diffusion choke employed as described effects a lubricant release from



the lubricant dispenser for long and very long periods of time, more specifically, such that throughout the service life the release of a small and also very small lubricant release rate can be ensured, and with a high accuracy.” *See* page 2, lines 27-21; emphasis added. According to Richter, a diffusion choke contains pores that allows for diffusion of a gas from a place of a higher concentration (i.e., a high pressure chamber) to a place of a lower concentration (e.g., a low pressure chamber). *See* page 2, lines 9-26. It would not have been clear how the bellows described in Couffer could achieve the results intended by Richter. Even if the bellows described in Couffer could somehow have achieved the results intended by Richter (which Applicants do not concede), it would have been apparent to one skilled in the art that including such a bellows in the lubricant dispenser described in Richter would defeat the purpose of its diffusion choke, which is an essential feature of Richter’s invention, and therefore completely change the principle how the lubricant dispenser described in Richter is operated. As discussed above, such a combination would not render obvious the system recited in amended claim 1. *See* MPEP 2143.01VI.

Finally, even if Richter and Couffer somehow were combined, the result would still not have been the system recited in amended claim 1. For example, neither Richter nor Couffer discloses or renders obvious a system in which a pressure controller is disposed within the high pressure chamber, as required by amended claim 1. Indeed, the pressure controller described in Richter (i.e., elements 5-7) is disposed outside of pressure gas cartridge 4 (which is considered by the Examiner as a high pressure chamber) and bellow assembly 13 described in Couffer (which is considered by the Examiner as a pressure controller) is disposed outside pressure fluid bottle 14 (which corresponds to a high pressure chamber).

In addition, Lippman also does not cure the deficiencies in Richter. For example, similar to Richter, Lippman does not disclose or render obvious a system in which a pressure controller is disposed within the high pressure chamber, as required by amended claim 1.

Thus, claim 1 is not obvious over Richter in view of Couffer or further in view of Lippman. Nor are claims 2-4, 6, 14-21, 24, and 26, all of which depend from claim 1.

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Turning to independent claims 27 and 31, these two claims, as amended, are not obvious over Richter in view of Couffer or further in view of Lippman for at least the same reasons set forth above.

Accordingly, Applicants request reconsideration and withdrawal of this rejection.

Applicants submit that the application is now in condition for allowance, an action of which is requested.

Any circumstance in which Applicants have: (a) addressed certain comments of the Examiner does not mean that Applicants concede other comments of the Examiner; (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for the patentability of those claims and other claims; or (c) amended or canceled a claim does not mean that Applicants concede any of the Examiner's positions with respect to that claim or other claims.

Please apply any other charges to deposit account 06-1050, referencing Attorney's Docket No. 25943-0004US1.

Respectfully submitted,

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